

# **Different Methods to Evaluate State Mercury Fish Consumption Advisories\***

**Henry A. Anderson, MD.  
Lynda Knobeloch, PhD  
WI Division of Public Health**

\*With the assistance of the staff and members of the Consortium and The Wis DNR  
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## **Consortium for Improving the Effectiveness of Mercury Fish Consumption Advisories**

### **States**

Maine, Wisconsin

### **Universities**

University of Wisconsin - Madison, Marquette University, Milwaukee, WI

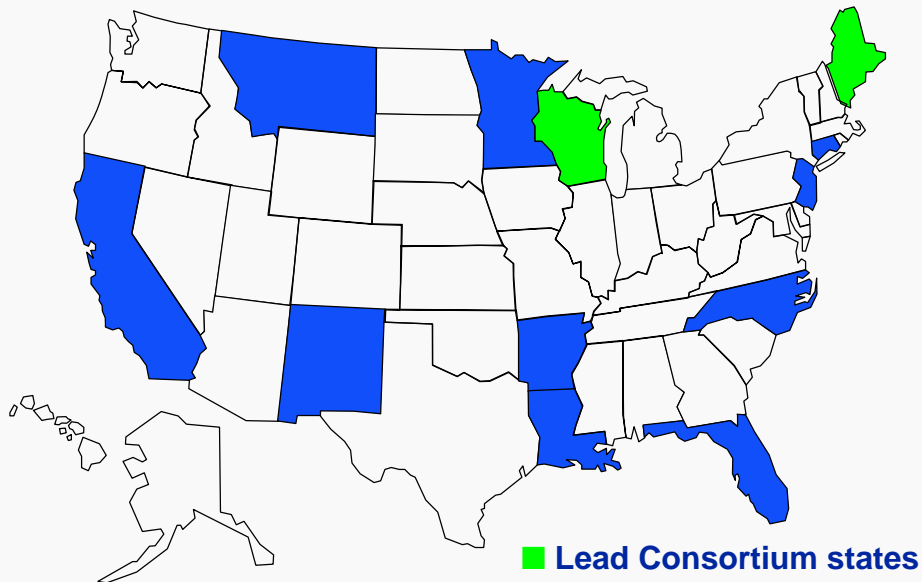
### **Federal Government**

United States Environmental Protection Agency, Office of Research and  
Development, Cincinnati, OH

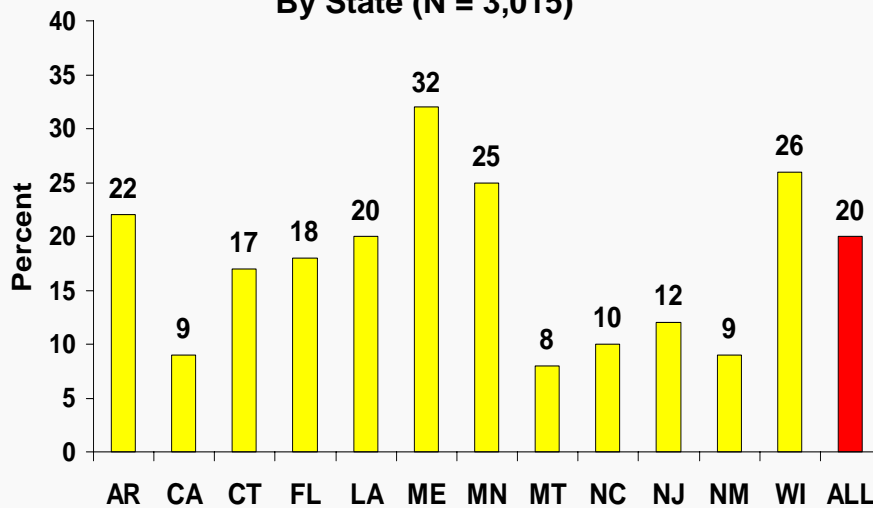
United States Environmental Protection Agency, Office of Water,  
Washington, DC

National Center for Environmental Health, CDC, Atlanta, GA

## 12 State Mercury Survey (2001)



## Mercury 12 State Survey Advisory Awareness among Women By State (N = 3,015)



## Recognition of Mercury Toxicity by Advisory Awareness

	Aware of Advisory	Not Aware of Advisory
Harms developing child	87%*	67%
Harms ability of muscles	52%*	37%
Body can eliminate mercury	19%	18%

\*Significantly higher than among those unaware of state advisories (P<0.01)

## Recognition of Mercury Distribution in Fish by Advisory Awareness

	Aware of Advisory	Not Aware of Advisory
Mercury not reduced by cooking	76%*	47%
Higher in older fish	56%*	43%
Higher in larger fish	38%*	29%
Higher in fish that eat others	23%*	18%
Highest in muscle/meat	8%	6%

\*Significantly higher than among those unaware of state advisories (P<0.01)

## Fish Consumption and Advisory Awareness by Demographics

	Income		Education	
	≤\$25,000	>\$25,000	up thru HS	College
Aware of Mercury Advisory	11%	23%*	16%	23%*
Ate Sport Fish in past 12 months	24%	31%*	27%	30%
Ate 2 or more fish meals/week	7%	10%*	6%	11%*
Fishing License Household	27%	39%*	38%*	33%

\* Significantly higher  $p < 0.01$

## Fish Consumption and Advisory Awareness by Demographics

	Race		Age	
	Other	White	≤30 yrs	>30 yrs
Aware of Mercury Advisory	13% <sup>+</sup>	22%*	10%	24%*
Ate Sport Fish in past 12 months	27%	30%	24%	31%*
Ate 2 or more fish meals/week	14%*	8%	7%	11%*
Fishing License Household	17%	39%*	32%	36%

+American Indians (31%) Hispanic ethnicity 12%, Blacks 11%, and Asian or Pacific Islanders 7%.

\* Significantly higher  $p < 0.01$

## Distribution of Sport Fish Information by Consumption Frequency

**< 2 meals/week    2 or more meals/week**  
**(N=2692)                      (N=282)**

<b>Aware of Mercury Advisory</b>	<b>20%</b>	<b>22%</b>
<b>Ate Sport Fish in past 12 months</b>	<b>28%</b>	<b>35%*</b>
<b>Fishing License Household</b>	<b>35%</b>	<b>35%</b>

**\*Significantly higher than among frequent fish consumers (P<0.01)**

## Recognition of Mercury Toxicity by Consumption Frequency

**< 2 meals / week    2 or more meals / week**

<b>Harms developing child</b>	<b>66%</b>	<b>77%*</b>
<b>Harms ability of muscles</b>	<b>39%</b>	<b>50%*</b>

**\*Significantly higher than among frequent fish consumers (P<0.01)**

## Recognition of Mercury Distribution in Fish by Consumption Frequency

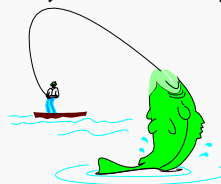
**< 2 meals/week      2 or more meals/week**

Higher in larger fish	30%	37%*
Higher in fish that eat others	18%	26%*
Higher in older fish	45%	48%
Highest levels in muscle/meat	6%	8%
Body can eliminate mercury	18%	21%*
Mercury not reduced by cooking	47%	59%*

\*Significantly higher than among frequent fish consumers (P<0.01)

## Mercury Advisory Pilot Interventions Maine and Wisconsin

- **Wisconsin (2001 - 2004)**
  - **Posters, brochures, Magnets, Sippy Cups, Growth Charts, Bandage dispensers, Notepads, Fact cards**
    - WIC clinics
    - Local health departments
    - Physician Offices - Family Practice, Pediatrics, Ob/Gyn



# Survey of 1,000 Women Who Gave Birth June 1-7, 2003



**Evaluation Tool #1**

## Purpose of Survey

- To assess:
  - fish consumption during pregnancy
  - awareness of the fish consumption advisory
  - familiarity with selected outreach materials



## Results

Questionnaires mailed in July to all 1,000  
live normal births during June 1-7, 2003

\$2.00 Incentive

2 mailings, one reminder postcard

Total cost \$12,000.

Response rate of 74%

740/1000

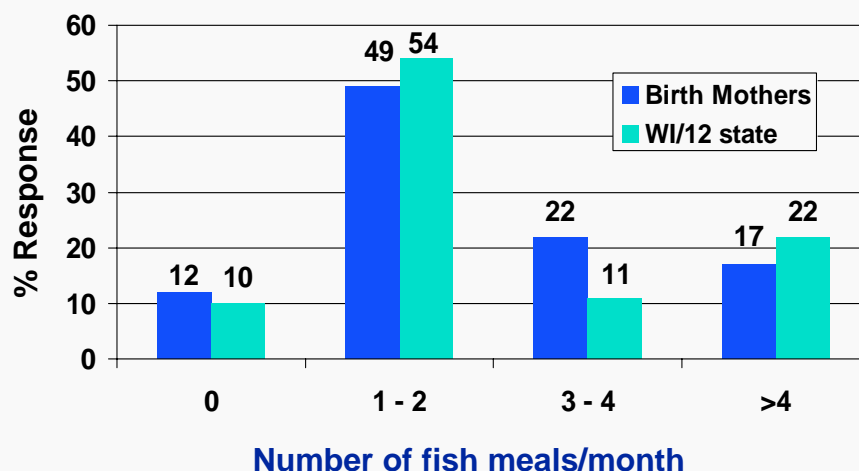
5% consumed fish 2 or more times a week

***In the past 12 months, have you eaten  
any of the following?***

<u>Type of fish</u>	<u>% Yes</u>
Canned Tuna	73%
Shellfish	53%
Frozen Filets	60%
Sport-caught fish	28%
Other	14%
No fish	12%

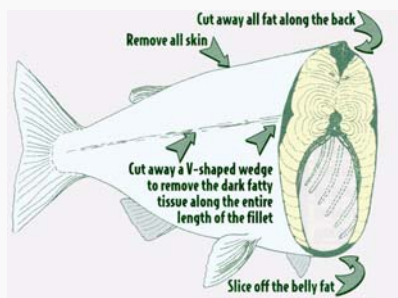


**Over the past 12 months, how many meals of fish did you eat per month?**

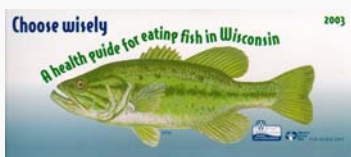


**Is there more mercury in the fat, the organs, the meat, or does it not matter?**

Fat	14%
Organs	7%
Meat	8%
Doesn't matter	10%
Don't know	60%
Left blank	1%

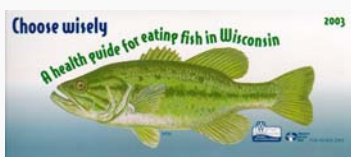


**PCB Advice**



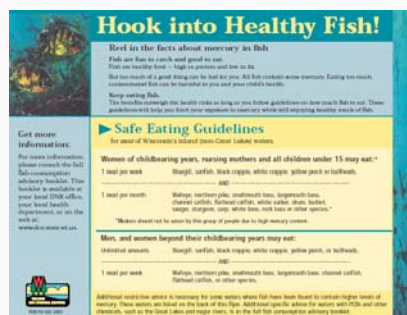
## How much do you know about the guidelines for eating sport fish?

	Birth	WI-12 State
Aware of Advisory	46%	26%
Unaware	53%	73%



## How much do you know about the guidelines for eating sport fish?

A lot	2%
Some	16%
Only a little	28%
Nothing	53%
Left blank	1%





## ***How much do you know about the guidelines for eating sport fish?***

	<2 meals/mo	2 or more meals/mo
A lot	2%	2%
Some	10%	21%
Only a little	25%	31%
Nothing	62%	45%
Left blank	1%	1%

## ***After learning about mercury, did you change your diet?***



I didn't know about the issue	35%
Ate SAME amount of fish	27%
Ate LESS fish	15%
Ate different TYPES of fish	11%
Never ate fish	11%
Ate MORE fish	<1%

# Outreach Materials Evaluation

“Hook into Healthy Fish”

“What Women of Childbearing Age should know about Eating Fish”

“A Women and Child Guide..”



## Multi-Language Posters for Doctor's Offices

## ***Have you seen either poster?***

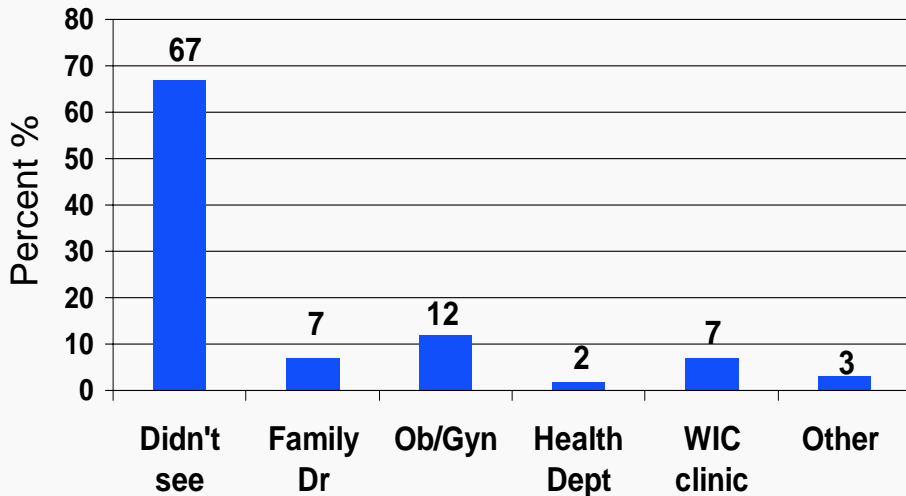
<b>Hook Into Healthy Fish (1999-2001)</b>	<b>2 %</b>
<b>What Women of Childbearing Age Should Know (2002-2003)</b>	<b>11%</b>
<b>Both posters</b>	<b>3%</b>
<b>Don't recall seeing either poster</b>	<b>83%</b>

## ***Have you ever seen our pamphlet entitled A Woman and Child's Guide to Eating Fish from Wisconsin?***

<b>Yes</b>	<b>13%</b>
<b>No</b>	<b>85%</b>
<b>Left blank</b>	<b>2%</b>



## *Where did you see these materials?*



## **Evaluation 2**

Materials were mailed to targeted clinical facilities - Did they receive, use?

- Random telephone interviews of 5%
  - 101 surveys of 2,020 sites mailed materials
  - 5 Clinical facility types
    - Family Practice
    - Pediatrics
    - Ob/Gyn
    - WIC clinics
    - Health Departments

## Results

**Documented that 59 (60%) out of 101 facilities remembered receiving/using the information**

**Family Practice 12/30 or ~ 40%**

**Ob/Gyn 6/10 or ~ 60%**

**Pediatrics 2/10 or ~ 20%**

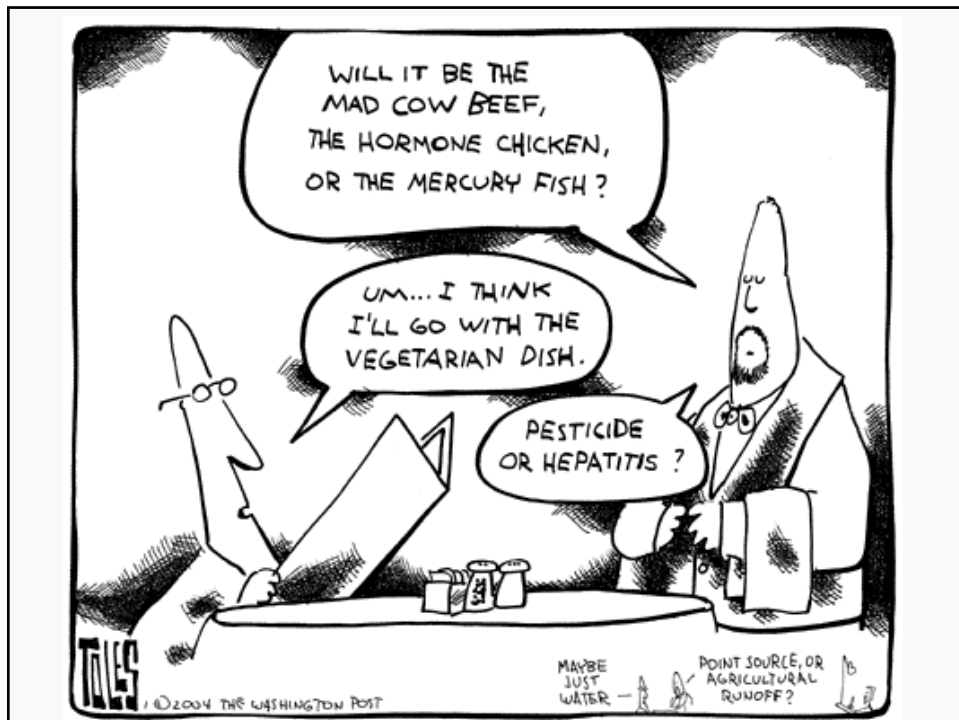
**Health Departments 16/26 or ~ 62%**

**WIC Clinic 23/25 or ~ 92%**

## 2004 Assessment Plans

- Behavioral Risk Factor Survey
  - 4,000 adults
- Hair Hg testing will be offered
- Incentive may be offered to encourage participation





## Different Methods to Evaluate State Mercury Fish Consumption Advisories

Any Questions?

